

THE HISTORY OF HERPETOLOGY IN INDIA

BY

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The history of herpetology in India begins at the end of the eighteenth century, when Patrick Russell and Thomas Hardwicke came to the country in the service of the East India Company. They lived and worked independently, but they were contemporaries and they may be considered together. Dr. Russell's life in India began in 1781 when at the age of 55, after some 20 years in the near East, he joined his younger brother who was returning to India, and lived at Vizagapatam in the Madras Presidency. Four years later he was appointed botanist and naturalist to the East India Company and for the remainder of his stay in the country was indefatigable in his researches, not only in botany, but in collecting, figuring and describing the fishes and snakes of the country. He was particularly interested in the poisonous snakes. He was the first person in India to distinguish the harmless from the poisonous species and his treatise, 'On the Peculiar Organs in the Mouth of Poisonous Snakes' illustrated with figures was published by the Government of India in 1787 and circulated in the settlements and military stations. He experimented widely with the common species of poisonous snakes making them bite animals and birds so that he could observe the symptoms, discover the varying degrees of toxicity and with that knowledge devise treatment to save human life. Nothing very novel, however, resulted from his experiments which were based largely upon an already reputed remedy known as the Tanjore Pill, a combination of mercury, arsenic, pepper and the extracts of certain herbs. His two volumes 'An account of Indian Serpents collected on the coast of Coromandel' and 'A continuation of an account of Indian Serpents' containing brief descriptions and carefully executed colour plates were published in 1786 and 1801 to 1809 respectively. Only the vernacular names of the snakes are given. A good account of Russell's life, with a portrait, is in the second volume of this work which was not completed until after his death.

Major-General Thomas Hardwicke spent his life in India in the army. As a young man of 21 he landed in the country in 1778 and there he spent the next 25 years. Hardwicke was an assiduous collector, not only of specimens in all branches of natural history but also of drawings and water-colour sketches of plants and animals. Most of these were drawn by native artists whom he employed for the purpose. The total number of his sketches fill 32 volumes and are now in the British Museum (Natural History). Two of the volumes contain the sketches of the reptiles (mainly snakes) and amphibians. Hardwicke did not contribute anything to the literature of herpetology, but his sketches and preserved specimens were used extensively by the systematists of his time and in that way our knowledge of the herpetology of India was enriched.

Other names connected with the early history of herpetology in India are Francis Buchanan-Hamilton, also a collector of water-colour sketches, Brian Hodgson who spent his life chiefly in Nepal, James Emerson Tennant, whose book the 'Natural History of Ceylon' was the first to deal with the natural history of the Island, Edward Blyth, the first curator of the Museum of the Asiatic Society of Bengal, Dr W. T. Blandford who, in his work on the geological survey of India, travelled and collected widely, and Col. R. H. Beddome to whom herpetology is indebted in particular for our knowledge of the Uropelts.

With the arrival of Dr. J. Fayrer in India a new era in the study of ophiology commenced. Fayrer devoted himself particularly to the poisonous snakes and his 'Thanatophidia of India' published in 1874 was a notable contribution. He made a careful study of the poison apparatus. By experimenting with animals and birds which he caused to be bitten by snakes, by a study of the symptoms of those people who had been bitten and brought to him for treatment he greatly advanced our knowledge of snake bite. He was the first to recognize that the venom of the elapine snakes was different in its effects upon the body from that of the viperine species. He made many advances in treatment. He advocated ligature and incision of the wound, suction under certain conditions, and destruction of the tissues at the seat of injury both by caustics and by the cautery. He tried amputation when it was possible. He was the originator of the treatment by potassium permanganate.

In 1860 the entire collection of preserved specimens of reptiles in the possession of the East India Company was presented to the British Museum and it was the arrival of this valuable material in England that led Dr. Albert Günther to compile his volume 'The Reptiles of British India'. This was published by the Ray Society in 1864. It was the first complete monograph to deal with the herpetology of the country. Dr. Günther never visited India and had no knowledge of the animals in the wild state. Nevertheless his volume was a valuable contribution to the subject and was for many years the standard work of reference. The volume is well illustrated, the source of many of the pictures being the collection of drawings made by Sir Walter Elliot during his long residence in the Madras Presidency.

Other workers of note on herpetology at the latter end of the last century and the beginning of the present one are Dr. John Anderson who made two expeditions to Yunnan, Lt.-Col. Henry Godwin-Austen who spent most of his service in India in Assam, Ferdinand Stoliczka who travelled extensively in the Himalayas and was the first naturalist to study the natural history of the Andaman and Nicobar Islands, and Harold Ferguson who enriched our knowledge in particular of the district of Travancore.

Above all others, however, stands George Albert Boulenger, not only for his 'Reptilia and Batrachia' in the Fauna of British India series, but for the very large number of papers and articles on herpetological subjects which he wrote at that time. Like Günther, Boulenger never visited India and his work was mainly on systematics. But the classification adopted by him in his treatment of the subject was a great advance on that of his predecessors and his major arrangement of the families has not been disputed since. For 40 years his volume remained the standard work on the subject.

To Colonel Frank Wall we are indebted more than any other man for our knowledge of the habits of the Indian snakes. As a member of the Indian Medical Service he arrived in the country in 1894. There he was to spend most of the next 30 years of his life and in the course of his duties was stationed in most parts of the Peninsula including Ceylon and Burma. Wherever Wall went he collected and studied his material, and by his enthusiasm induced others to collect for him. He was not a museum worker. His interest was in the living creatures and his voluminous writings deal almost entirely with their habits and structure. His larger works include 'The Snakes of Ceylon', 'The Poisonous Snakes of our British Indian Dominions' and 'A Popular Treatise on the Common Indian Snakes'.

The writer's contribution to Indian herpetology is the three volumes on the reptiles in the Fauna of British India series published during 1931-1943. The classification adopted is with some small alterations that used by Boulenger, but in addition to the descriptions given, an attempt has been made to include an account of the life histories of those species that are known. It is unfortunate that the volume on the snakes is now out of print, all the unbound copies of the book having been destroyed by fire during one of the air raids on London. The volume on the amphibia is not yet written.

In recent years an intensive study of the reptiles of Ceylon has been made by Dr. P. E. P. Deraniyagala. He has devoted himself specially to the Chelonians, and his volume 'Tetrapod Reptiles of Ceylon' published in 1939 covers the group very completely. His account of the development of the species is an aspect of the subject that has not been undertaken before. In his introduction to the volume Dr. Deraniyagala has given also a brief account of the chief workers on herpetology connected with the Island. It is impossible, in a brief survey of the history of herpetology of India, such as has been attempted here, to mention every one who has contributed to the subject. Notes and short articles on habits, structure and distribution dealing with individual species are constantly appearing, the majority of them in the pages of this journal.